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**CITY OF ELKHART, INDIANA**

**JAMES P. PERRON, Mayor**

**CERTIFIED**

7 February 1995

Ms. Pat Carrasquero  
Indiana Department of Environmental Management  
SuperFund Section  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015

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EB 9 1995  
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353143

Dear Ms. Carrasquero,

Enclosed please find the required reports (Quarterly and Annual) for the Air Stripper Facility located at North Main Street Well Field, Elkhart, Indiana.

These reports are for 1994. The format of the quarterly reports was changed in the second quarter in order that the laboratory costs be tabulated separately from the maintenance costs.

Significant events that occurred in 1994 included the start-up of Interceptor Wells #3 and #4 and the rebuilding of Interceptor Well #2. The rebuilding costs are, however, not reflected in the 1994 report. These costs will be reported in the first quarter of 1995.

If you have any questions, please contact me at (219) 293-2572.

Sincerely,

Marie A. Davis  
Superintendent

cc: Gary Gilot, PWU Director



**COMMITMENT TO EXCELLENCE**

# ELKHART PUBLIC WORKS & UTILITIES

## Air Stripper Operation & Maintenance Annual Report


Quarter	Operations	Maintenance	Personnel	Laboratory	Total
First	\$3,213.30	\$51.00	\$947.91	\$1,266.90	\$5,479.11
Second	\$3,515.52	\$862.41	\$945.46	\$690.00	\$6,013.39
Third	\$7,899.36	\$4,958.23	\$792.91	\$1,242.00	\$14,892.50
Fourth	\$13,573.17	\$335.43	\$986.24	\$2,208.00	\$17,102.84
<b>Total</b>	<b>\$28,201.35</b>	<b>\$6,207.07</b>	<b>\$3,672.52</b>	<b>\$5,406.90</b>	<b>\$43,487.84</b>

### Brief Summary of Maintenance Activities

Daily rounds (equipment checks and meter readings), VOC sampling, process control testing (chlorine residual), resetting alarms, changing chlorine cylinders
Corrective maintenance - rebuild chlorinator, clean injector
Preventive maintenance - change oil/packing

Give an evaluation of the effectiveness of the air stripper based on performance monitoring.

All air stripper effluent samples and finished water samples contained less than 0.5 µg/L of trichloroethylene.

  
Signature: Marie A. Davis

07 February 1995  
Date

1994  
Year of Report

**CITY OF ELKHART WATER UTILITY**  
**Air Stripper**  
**Operation and Maintenance Quarterly Report**

Month	Operation Cost (energy)	Maintenance Activities	Personnel Cost	Laboratory Cost	TCE in Raw & Finished Water (based on existing sampling program)	
OCTOBER	\$4,900.25		\$324.83	\$690.00		
NOVEMBER	\$4,675.91	\$324.67	\$306.70	\$966.00		< 0.5 µg/L
DECEMBER	\$3,997.01	\$10.76	\$354.71	\$552.00		
<b>TOTAL</b>	<b>\$13,573.17</b>	<b>\$335.43</b>	<b>\$986.24</b>	<b>\$2,208.00</b>	<b>Raw</b>	<b>Finished</b>

TCE Levels (µg/L) in each production well and interceptor well outfall.

Month	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Well #9	Well #10	Well A	Well B	Well C	Well D	Well E	Int. #1	Int. #2	Int. #3	Int. #4
OCTOBER																			
NOVEMBER				7.5	2.2	0.61			2.0	<0.5					7.1	21	5.4	38	17
DECEMBER				4.2														40	14

< = less than

Give an evaluation of effectiveness of the air stripper based on performance monitoring program.

Month	AST #1		AST #2		AST #3	
	Influent TCE, µg/L	Effluent TCE, µg/L	Influent TCE, µg/L	Effluent TCE, µg/L	Influent TCE, µg/L	Effluent TCE, µg/L
OCTOBER	19	< 0.5			19	< 0.5
NOVEMBER					28	< 0.5
DECEMBER			24	< 0.5		

Comments:

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Attach: Pumpage from each well treated on a daily basis (in graphic format)  
Total daily pumpage treated (in graphic format)

Signature: 

Date: 02 February 1995 Reporting Quarter: 4th Year: 1994

AIR STRIPPER MAINTENANCE

October - December 1994

<u>Date</u>	<u>Item</u>	<u>Time Spent (Hrs)</u>	
10/1-10/7	Daily Reads	2-1/2	1. O/T
10/8-10/14	"	2-1/2	1. O/T
10/12	Sampling	1.	
10/15-10/21	Daily Reads	2-1/2	1. O/T
10/22-10/28	"	2-1/2	1. O/T
10/29-11/4	"	2-1/2	1. O/T
11/5-11/11	Daily Reads	1-1/2	2. O/T
11/12-11/18	"	2-1/2	1. O/T
11/19-11/25	"	1-1/2	2. O/T
	Samples	1.	
11/26-12/2	Daily Reads	2-1/2	1. O/T
12/5-12/9	"	2-1/2	1. O/T
12/7	Samples	1.	
12/10-12/16	Daily Reads	2-1/2	1-1/2 O/T
12/17-12/23	"	2.	1-1/2 O/T
12/24-12/30	"	1-1/2	1-1/2 O/T

**CITY OF ELKHART WATER UTILITY**  
**Air Stripper**  
**Operation and Maintenance Quarterly Report**

Month	Operation Cost (energy)	Maintenance Activities	Personnel Cost	Laboratory Cost	TCE in Raw & Finished Water (based on existing sampling program)	
JULY	2,785.35	345.00	169.76	828.00		
AUGUST	1,819.07	4,584.31	413.64	414.00		
SEPTEMBER	3,294.94	28.92	209.51	-0-		< 0.5 µg/L
<b>TOTAL</b>	<b>7,899.36</b>	<b>4,958.23</b>	<b>792.91</b>	<b>1,242.00</b>	<b>Raw</b>	<b>Finished</b>

TCE Levels (µg/L) in each production well and interceptor well outfall.

Month	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Well #9	Well #10	Well A	Well B	Well C	Well D	Well E	Int. #1	Int. #2	Int. #3	Int. #4
JULY																			
AUGUST																			
SEPTEMBER				6.9	2.4	1.1			3.1	<0.5					6.0	25	5.4	29	22

< = less than

Give an evaluation of effectiveness of the air stripper based on performance monitoring program.

Month	AST #1		AST #2		AST #3	
	Influent TCE, µg/L	Effluent TCE, µg/L	Influent TCE, µg/L	Effluent TCE, µg/L	Influent TCE, µg/L	Effluent TCE, µg/L
JULY		< 0.5	6.2			< 0.5
AUGUST		< 0.5			9.5	< 0.5
SEPTEMBER	7.8	< 0.5				< 0.5

Comments:

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Attach: Pumpage from each well treated on a daily basis (in graphic format)  
Total daily pumpage treated (in graphic format)

Signature: Main [Signature]

Date: 12-08-99 Reporting Quarter: 3rd Year: 1994



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**PUBLIC WORKS & UTILITIES DEPARTMENT**

**JAMES P. PERRON, Mayor**

**AIR STRIPPER MAINTENANCE**

**JULY THRU SEPTEMBER 1994**

<u>DATE</u>	<u>ITEM</u>	<u>TIME SPENT</u>
July 1-31	Daily Readings	4.50 O/T
7/6	Restart alarm	2.5 S/T
7/20	Samples	.50 S/T
7/26	#1 Pump VFD	4.00 S/T
7/29	Dbase - Int. 3-4	.50 S/T
August 1-31	Daily Readings	5.00 O/T
8/3	Samples	1.00 S/T
8/19	Lightning strike	.50 S/T
8/22	Check alarms	1.50 S/T
Sept 1-30	Daily readings	4.50 O/T
	"	2.00 S/T
9/7	Remove CL2 bottles	.50 S/T
9/9	Clean injectors	2.00 S/T
9/14	Samples	1.50 S/T



**COMMITMENT TO EXCELLENCE**

**CITY OF ELKHART WATER UTILITY**  
**Air Stripper**  
**Operation and Maintenance Quarterly Report**

Month	Operation Cost (energy)	Maintenance Activities	Personnel Cost	Laboratory Cost	TCE in Raw & Finished Water (based on existing sampling program)	
April	743.54	23.33	371.87	276.00		
May	1361.49	576.45	317.08	.00		< 0.5 µg/L
June	1410.49	262.63	256.51	414.00		
<b>TOTAL</b>	<b>3515.52</b>	<b>862.41</b>	<b>945.46</b>	<b>690.00</b>	<b>Raw</b>	<b>Finished</b>

TCE Levels (µg/L) in each production well and interceptor well outfall.

Month	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Well #9	Well #10	Well A	Well B	Well C	Well D	Well E	Int. #1	Int. #2	Int. #3	Int. #4
April																			
May																			
June																			

< = less than

Give an evaluation of effectiveness of the air stripper based on performance monitoring program.

Month	AST #1		AST #2		AST #3	
	Influent TCE, µg/L	Effluent TCE, µg/L	Influent TCE, µg/L	Effluent TCE, µg/L	Influent TCE, µg/L	Effluent TCE, µg/L
April	21.0	< 0.5				
May		< 0.5	27.0	<0.5		
June	7.5	< 0.5		<0.5		

Comments:

No samples were collected for the individual wells during the second quarter

Attach: Pumpage from each well treated on a daily basis (in graphic format)  
Total daily pumpage treated (in graphic format)

Signature: Martin A. [Signature] Date: 8/5/94 Reporting Quarter: 2nd Year: 1994



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PUBLIC WORKS AND UTILITIES, Elkhart, In

JAMES P. PERRON, Mayor

### AIR STRIPPER MAINTENANCE

APRIL THRU JUNE 1994

<u>DATE</u>	<u>ITEM</u>	<u>TIME SPENT</u>
April 1-30	Daily Readings	8.50
		4.00 O/T
4/4	Rebuild chlorinator	5.00
4/5	Rebuild RP	2.00
May 1 - 31	Daily Readings	3.00
		6.00 O/T
5/13	#1 Variable freq. drive	5.00
June 1 - 30	Daily Readings	4.50 O/T
6/13-14	Work on alarms	5.00
6/27	Reset alarms	2.00

COPY



**CITY OF ELKHART WATER UTILITY**  
**AIR STRIPPER, OPERATION AND MAINTENANCE QUARTERLY REPORT**

Month	Operation Cost (Energy)	Maintenance Activities	Personnel Cost	TCE Concentration in Raw & Finished Water (Based on existing well sampling program)	
				Raw	Finished
JANUARY	1098.41	552.00	179.58		
FEBRUARY	1100.82	338.18	181.17		
MARCH	1014.07	427.72	587.16		
TOTAL	3,213.30	1,317.90	947.91		

TCE Levels (ug/L) in each production well and interceptor well outfall

Month	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Well #9	Well #10	Well A	Well B	Well C	Well D	Well E	Int-1	Int-2
JANUARY	1.4						<0.5	<0.5	21.0								30.0
FEBRUARY																	
MARCH																	

< = less than

Give an evaluation of effectiveness of the air stripper based on performance monitoring program.

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Attach: Pumpage from each well treated on a daily basis (in graphic format)  
Total daily pumpage treated (in graphic format)

Signature: Marie Davis Date: 5/6/94 Reporting Quarter 1st Year 1994  
Marie Davis



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PUBLIC WORKS AND UTILITIES, Elkhart, In

JAMES P. PERRON, Mayor

AIR STRIPPER MAINTENANCE

JAN. THRU MARCH 1994

<u>DATE</u>	<u>Item</u>	<u>Time Spent</u>
Jan. 1-31	Daily Readings	4.50
		4.50 O/T
Feb. 1-28	Daily readings	9.50
		2.00 O/T
Feb. 19	Clean injector	.50
March 1-31	Daily Readings	12.50
		4.00 O/T
March 8	Hour meter & blower	2.00
March 24-25	Order Parts	2.00
March 21	Packing - change Oil	8.00
March 30	Start-up - Shut-down	1.50

